

Effective for residents who enter training on or after July 1, 2025.

DEFINITION

Endocrinology and Metabolism is a subspecialty of Internal Medicine and Pediatrics concerned with the study of the diseases of the endocrine organs, disorders of hormone systems and their target organs, and disorders of the pathways of glucose and lipid metabolism.

ENDOCRINOLOGY AND METABOLISM PRACTICE

Endocrinologists provide care for patients of all ages with presentations and disorders related to the endocrine system and metabolism. This includes patients with overactive and underactive hormonal function of the pancreas, gonads, and the hypothalamus, pituitary, thyroid, parathyroid, and adrenal glands; disorders of glucose and lipid metabolism; metabolic bone diseases; cancers of the endocrine glands; inherited endocrine tumour syndromes; conditions related to gender and sexual health; and differences in sexual development. Endocrinologists are also involved in the care of gender diverse individuals and in the management of obesity.

Generally, pediatric patients are cared for by pediatric subspecialists in Endocrinology and Metabolism and adult patients are cared for by internists with subspecialty training in adult Endocrinology and Metabolism.

Endocrinologists provide care, counselling, and support to patients and families throughout the trajectory of the patient's condition. This includes initial assessment and diagnosis, treatment, recognizing and managing immediate and long-term complications of the related condition or its treatment, health surveillance, follow-up, and symptom management. Treatment may include a combination of one or more of pharmacologic treatment, hormonal replacement, radioactive iodine, or referral for surgery. Endocrinologists provide education to and facilitate patients' and families'¹ management of the patient's condition.

¹ Throughout this document, references to the patient's family are intended to include all those who are personally significant to the patient and are concerned with their care, including, according to the patient's circumstances, family members, partners, caregivers, legal guardians, and substitute decision-makers.

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Endocrinologists may share care with the referring physician and other specialists. They consult with other physicians and surgeons. Endocrinologists work within an interprofessional team.

Endocrinologists work in a variety of settings, including academic health centres, community hospitals, and private outpatient clinics. Endocrinologists routinely provide virtual care and consultation.

ELIGIBILITY REQUIREMENTS TO BEGIN TRAINING (adult stream)

These eligibility requirements apply to those who began training in Internal Medicine prior to July 1, 2023.

Royal College certification in Internal Medicine

OR

Eligibility for the Royal College examination in Internal Medicine

OR

Registration in a Royal College-accredited residency program in Internal Medicine (see requirements for these qualifications)

A maximum of one year of training may be undertaken during training for certification in Internal Medicine

These eligibility requirements apply to those who began training in Internal Medicine on or after July 1, 2023.

Royal College certification in Internal Medicine

OR

Completion of the Core stage in a Royal College-accredited residency program in Internal Medicine (see requirements for these qualifications)

Training in Endocrinology and Metabolism may overlap with completion of requirements for certification in Internal Medicine (see requirements for the Overlap Training and Alternative Pathway to Internal Medicine Certification)

ELIGIBILITY REQUIREMENTS TO BEGIN TRAINING (pediatric stream)

Royal College certification in Pediatrics

OR

Successful completion of the Transition to Practice stage of training in a Royal College accredited residency program in Pediatrics²

ELIGIBILITY REQUIREMENTS FOR EXAMINATION³

All candidates must be Royal College certified in Internal Medicine or Pediatrics in order to be eligible for the Royal College examination in Endocrinology and Metabolism.

ENDOCRINOLOGY AND METABOLISM COMPETENCIES

Medical Expert

Definition:

As *Medical Experts*, endocrinologists integrate all of the CanMEDS Roles, applying medical knowledge, clinical skills, and professional values in their provision of high-quality and safe patient-centred care. Medical Expert is the central physician Role in the CanMEDS Framework and defines the physician's clinical scope of practice.

Key and Enabling Competencies: Endocrinologists are able to...

1. Practise medicine within their defined scope of practice and expertise

- 1.1. Demonstrate a commitment to high-quality care of their patients
- 1.2. Integrate the CanMEDS Intrinsic Roles into their practice of Endocrinology and Metabolism
- 1.3. Apply knowledge of the clinical, socio-behavioural, and fundamental biomedical sciences relevant to Endocrinology and Metabolism, including
 - 1.3.1. Normal endocrine physiology, including hormone action and control of secretion
 - 1.3.2. Normal linear growth and development and its variations (pediatric stream only)
 - 1.3.3. Alterations in the endocrine system in persons with critical illness

² Some programs in Quebec may permit eligible trainees to begin subspecialty training before completion of the Pediatrics Transition to Practice stage. However, as with all jurisdictions, trainees in Quebec must achieve all generalist competencies of the Pediatrics specialty prior to certification in Pediatrics. To learn more about the entrance requirements for a specific Endocrinology and Metabolism program, speak to the relevant postgraduate medical education office.

³ These eligibility requirements do not apply to Subspecialty Examination Affiliate Program (SEAP) candidates. Please contact the Royal College for information about SEAP.

- 1.3.4. Alterations in the endocrine system in persons with systemic disease
- 1.3.5. Alterations in the endocrine system in pregnancy (adult stream only)
- 1.3.6. Autoimmunity and immune therapy as it relates to the endocrine system
- 1.3.7. Genetics as it relates to endocrine disorders
- 1.3.8. Etiology, natural history, clinical presentation, screening, approach to diagnosis, and management of the following conditions and their associated complications:
 - 1.3.8.1. Type 1 and type 2 diabetes mellitus, including the role of nutrition, exercise, and pharmacological management, including diabetes technologies
 - 1.3.8.2. Disorders of the adrenal cortex and medulla
 - 1.3.8.3. Disorders of glucose metabolism, including hypoglycemia and hyperglycemia
 - 1.3.8.4. Disorders of growth in children and adolescents (pediatric stream only)
 - 1.3.8.5. Disorders of lipid metabolism
 - 1.3.8.6. Disorders of the pituitary gland
 - 1.3.8.7. Disorders of reproduction in females, including differences in sexual development, abnormalities of puberty, menstrual disorders, menopause, hyperandrogenic states, hypogonadism, and infertility
 - 1.3.8.8. Disorders of reproduction in males, including differences in sexual development, abnormalities of puberty, hypogonadism, and infertility
 - 1.3.8.9. Conditions related to gender and sexual health, including gender incongruence
 - 1.3.8.10. Disorders of the thyroid gland
 - 1.3.8.11. Endocrine tumours, benign and malignant
 - 1.3.8.12. Fluid, electrolyte, and acid-base disorders related to the endocrine system
 - 1.3.8.13. Hypertension related to endocrine disorders
 - 1.3.8.14. Inborn errors of bone metabolism (pediatric stream only)
 - 1.3.8.15. Obesity and weight management
 - 1.3.8.16. Metabolic bone disease and disorders of calcium and phosphate metabolism, including disorders of the parathyroid glands and the vitamin D system
- 1.3.9. Methods for diagnosis and for monitoring of therapy
 - 1.3.9.1. Laboratory investigations, including hormonal assays and dynamic endocrine testing
 - 1.3.9.2. Histopathology
 - 1.3.9.3. Cytology

- 1.3.9.4. Medical imaging for example ultrasound; computed tomography; magnetic resonance imaging; neuroradiology; interventional radiology; nuclear imaging, including radioisotope scanning and bone mineral density measurement
- 1.3.10. Gender diverse care
- 1.3.11. Nutrition and physical activity as they apply to endocrine disorders
- 1.3.12. Therapeutic interventions, including mechanism of action and indications for, contraindications to, and benefits and risks of
 - 1.3.12.1. Pharmacotherapy
 - 1.3.12.2. Radioactive iodine therapy
- 1.3.13. Radiation safety in the use of radioactive isotopes in endocrine disorders
- 1.4. Perform appropriately timed clinical assessments with recommendations that are presented in an organized manner
- 1.5. Carry out professional duties in the face of multiple competing demands
- 1.6. Recognize and respond to the complexity, uncertainty, and ambiguity inherent in Endocrinology and Metabolism practice

2. Perform a patient-centred clinical assessment and establish a management plan

- 2.1. Prioritize issues to be addressed in a patient encounter
 - 2.1.1. Determine the acuity of the condition and the priorities for patient care
 - 2.1.2. Recognize and respond to emergency situations
- 2.2. Elicit a history, perform a physical exam, select appropriate investigations, and interpret their results for the purpose of diagnosis and management, disease prevention, and health promotion
 - 2.2.1. Gather a relevant clinical history, including information about the patient's use of complementary and alternative medicine
 - 2.2.2. Perform a physical exam, including the use of focused physical examination techniques
 - 2.2.3. Select and interpret the results of investigations
 - 2.2.3.1. Glucose monitoring
 - 2.2.3.2. Basal and dynamic endocrine testing
 - 2.2.3.3. Histopathology
 - 2.2.3.4. Cytology
 - 2.2.3.5. Medical imaging

- 2.2.3.6. Nuclear medicine
- 2.2.3.7. Genetic testing
- 2.3. Establish goals of care in collaboration with patients and their families, which may include slowing disease progression, treating symptoms, achieving cure, improving function, and palliation
- 2.4. Establish a patient-centred management plan

3. Plan and perform procedures and therapies for the purpose of assessment and/or management

- 3.1. Determine the most appropriate procedures or therapies
 - 3.1.1. Fine needle aspiration of the thyroid gland
 - 3.1.2. Counselling regarding lifestyle modifications
 - 3.1.3. Pharmacologic therapy
 - 3.1.4. Radioactive iodine therapy
 - 3.1.5. Surgical intervention
- 3.2. Obtain and document informed consent, explaining the risks and benefits of, and the rationale for, a proposed procedure or therapy
- 3.3. Prioritize procedures or therapies, taking into account clinical urgency and available resources
- 3.4. Perform procedures and provide therapies in a skilful and safe manner, adapting to unanticipated findings or changing clinical circumstances, including
 - 3.4.1. Prescribe and monitor dynamic endocrine testing
 - 3.4.2. Prescribe and monitor intensive diabetes care and management, including the use of diabetes technologies

4. Establish plans for ongoing care and, when appropriate, timely consultation

- 4.1. Implement a patient-centred care plan that supports ongoing care, follow-up on investigations, response to treatment, and further consultation
 - 4.1.1. Assess and manage adherence to treatment plans
 - 4.1.2. Adapt management plans based on response to therapy and disease progression
 - 4.1.3. Recognize and manage complications of the underlying clinical condition as well as interventions and treatments
 - 4.1.4. Determine the need for and timing of referral to other health care professionals including return to care of primary physician
 - 4.1.5. Determine the need for and timing of transition to adult care (pediatric stream only)

5. Actively contribute, as an individual and as a member of a team providing care, to the continuous improvement of health care quality and patient safety

- 5.1. Recognize and respond to harm from health care delivery, including patient safety incidents
- 5.2. Adopt strategies that promote patient safety and address human and system factors

Communicator

Definition:

As *Communicators*, endocrinologists form relationships with patients and their families that facilitate the gathering and sharing of essential information for effective health care.

Key and Enabling Competencies: Endocrinologists are able to...

1. Establish professional therapeutic relationships with patients and their families

- 1.1. Communicate using a patient-centred approach that encourages patient trust and autonomy and is characterized by empathy, respect, and compassion
- 1.2. Optimize the physical environment for patient comfort, dignity, privacy, engagement, and safety
 - 1.2.1. Prepare space for optimal virtual care experience
- 1.3. Recognize when the perspectives, values, or biases of patients, patients' families, physicians, or other health care professionals may have an impact on the quality of care, and modify the approach to the patient accordingly
 - 1.3.1. Demonstrate a non-judgmental attitude
 - 1.3.2. Demonstrate respect for gender diversity, including use of preferred pronouns and names of the patient
- 1.4. Respond to a patient's non-verbal behaviours to enhance communication
- 1.5. Manage disagreements and emotionally charged conversations
- 1.6. Adapt to the unique needs and preferences of each patient and to the patient's clinical condition and circumstances

2. Elicit and synthesize accurate and relevant information, incorporating the perspectives of patients and their families

- 2.1. Use patient-centred interviewing skills to effectively gather relevant biomedical and psychosocial information
 - 2.1.1. Engage in dialogue with respect to patient's use of complementary and alternative medicines
- 2.2. Provide a clear structure for and manage the flow of an entire patient encounter
- 2.3. Seek and synthesize relevant information from other sources, including the patient's family, with the patient's consent

3. Share health care information and plans with patients and their families

- 3.1. Share information and explanations that are clear, accurate, and timely, while assessing for patient and family understanding
 - 3.1.1. Use plain language to optimize patient and family understanding
 - 3.1.2. Educate and counsel patients and families about the condition and treatment options
 - 3.1.3. Provide written or visual materials, or both, to supplement health teaching
- 3.2. Disclose harmful patient safety incidents to patients and their families

4. Engage patients and their families in developing plans that reflect the patient's health care needs and goals

- 4.1. Facilitate discussions with patients and their families in a way that is respectful, non-judgmental, and culturally safe
- 4.2. Assist patients and their families to identify, access, and make use of information and communication technologies to support their care and manage their health
 - 4.2.1. Facilitate access to credible, up-to-date information, including printed material and websites
 - 4.2.2. Facilitate self-care and chronic disease management
- 4.3. Use communication skills and strategies that help patients and their families make informed decisions regarding their health

5. Document and share written and electronic information about the medical encounter to optimize clinical decision-making, patient safety, confidentiality, and privacy

- 5.1. Document clinical encounters in an accurate, complete, timely, and accessible manner, in compliance with regulatory and legal requirements

- 5.2. Communicate effectively using a written health record, electronic medical record, or other digital technology
- 5.3. Share information with patients and others in a manner that enhances understanding and that respects patient privacy and confidentiality

Collaborator

Definition:

As *Collaborators*, endocrinologists work effectively with other health care professionals to provide safe, high-quality, patient-centred care.

Key and Enabling Competencies: Endocrinologists are able to...

1. Work effectively with physicians and other colleagues in the health care professions

- 1.1. Establish and maintain positive relationships with physicians and other colleagues in the health care professions to support relationship-centred collaborative care
- 1.2. Negotiate overlapping and shared responsibilities with physicians and other colleagues in the health care professions in episodic and ongoing care
 - 1.2.1. Share information with other physicians and health care professionals to facilitate patient care
 - 1.2.2. Differentiate between the role of the endocrinologist and that of the referring or primary care physician and work within the scope of the consultant role
- 1.3. Engage in respectful shared decision-making with physicians and other colleagues in the health care professions
 - 1.3.1. Convey information from the clinical assessment in a manner that enhances patient care
 - 1.3.2. Synthesize, present, and discuss clinical assessment and management of patients at multidisciplinary rounds

2. Work with physicians and other colleagues in the health care professions to promote understanding, manage differences, and resolve conflicts

- 2.1. Show respect toward collaborators
- 2.2. Implement strategies to promote understanding, manage differences, and resolve conflict in a manner that supports a collaborative culture

3. Hand over the care of a patient to another health care professional to facilitate continuity of safe patient care

- 3.1. Determine when care should be transferred to another physician or health care professional
 - 3.1.1. Facilitate transfer of care to a primary care physician or other care provider
 - 3.1.2. Facilitate transition of care from the pediatric to the adult health care setting (pediatric stream only)
- 3.2. Demonstrate safe handover of care, using both oral and written communication, during a patient transition to a different health care professional, setting, or stage of care
 - 3.2.1. Summarize all relevant patient issues in a transfer summary or referral
 - 3.2.2. Provide guidance to interpret and manage the results of any outstanding investigations and other next steps for management

Leader

Definition:

As *Leaders*, endocrinologists engage with others to contribute to a vision of a high-quality health care system and take responsibility for the delivery of excellent patient care through their activities as clinicians, administrators, scholars, or teachers.

Key and Enabling Competencies: Endocrinologists are able to...

1. Contribute to the improvement of health care delivery in teams, organizations, and systems

- 1.1. Apply the science of quality improvement to systems of patient care
- 1.2. Contribute to a culture that promotes patient safety
- 1.3. Analyze patient safety incidents to enhance systems of care
- 1.4. Use health informatics to improve the quality of patient care and optimize patient safety

2. Engage in the stewardship of health care resources

- 2.1. Allocate health care resources for optimal patient care
 - 2.1.1. Apply knowledge of cost and benefit when selecting diagnostic and therapeutic interventions
- 2.2. Apply evidence and management processes to achieve cost-appropriate care
 - 2.2.1. Avoid duplication of diagnostic testing and services

3. Demonstrate leadership in health care systems

- 3.1. Demonstrate leadership skills to enhance health care
 - 3.1.1. Delegate responsibility effectively and appropriately as a team leader to optimize patient care
- 3.2. Facilitate change in health care to enhance services and outcomes

4. Manage career planning, finances, and health human resources in personal practice(s)

- 4.1. Set priorities and manage time to integrate practice and personal life
- 4.2. Manage personal professional practice(s) and career
 - 4.2.1. Apply knowledge of physician remuneration, finances, and human resources in different models of practice
 - 4.2.2. Apply knowledge of issues pertaining to the management of the physician's office, including staffing, equipment, and facilities (adult stream only)
 - 4.2.3. Apply knowledge of ethical billing practices and maintenance of patient records
 - 4.2.4. Participate in the organization and management of clinical practice
 - 4.2.4.1. Triage patient visits
 - 4.2.4.2. Plan work schedules
 - 4.2.4.3. Participate in ongoing monitoring of clinical care
- 4.3. Implement processes to ensure personal practice improvement

Health Advocate

Definition:

As Health Advocates, endocrinologists contribute their expertise and influence as they work with communities or patient populations to improve health. They work with those they serve to determine and understand needs, speak on behalf of others when required, and support the mobilization of resources to effect change.

Key and Enabling Competencies: Endocrinologists are able to...

1. Respond to an individual patient's health needs by advocating with the patient within and beyond the clinical environment

- 1.1. Work with patients to address determinants of health that affect them and their access to needed health services or resources
 - 1.1.1. Facilitate patient access to medication and reimbursement for supplies for their endocrine condition

- 1.2. Work with patients and their families to increase opportunities to adopt healthy behaviours
 - 1.2.1. Cessation of smoking and vaping
 - 1.2.2. Avoidance of the misuse of hormonal and other therapies
 - 1.2.3. Dietary modifications
 - 1.2.4. Physical activity
- 1.3. Incorporate disease prevention, health promotion, and health surveillance into interactions with individual patients
 - 1.3.1. Provide guidance for
 - 1.3.1.1. Sick day management for patients with diabetes or adrenal insufficiency
 - 1.3.1.2. Driving and diabetes
 - 1.3.1.3. Hypoglycemia
 - 1.3.1.4. Pregnancy planning

2. Respond to the needs of the communities or populations they serve by advocating with them for system-level change in a socially accountable manner

- 2.1. Work with a community or population to identify the determinants of health that affect them, including barriers to access to care and resources
 - 2.1.1. Recognize the high burden of illness from common endocrine disorders that may contribute to inadequate access to care and resources and medical and social vulnerability
 - 2.1.2. Identify and respond appropriately to systemically-marginalized populations, including
 - 2.1.2.1. Gender and sexual minorities
 - 2.1.2.2. Indigenous peoples
 - 2.1.2.3. Persons who are racialized
 - 2.1.2.4. Persons with language, cultural, geographic, or social barriers
 - 2.1.2.5. Persons with mental health concerns
 - 2.1.2.6. Persons with physical disabilities
 - 2.1.3. Incorporate the perspectives and concerns of systemically marginalized populations into the development and implementation of endocrinology and metabolism management

- 2.2. Improve clinical practice by applying a process of continuous quality improvement to disease prevention, health promotion, and health surveillance activities
- 2.3. Contribute to a process to improve health in the community or population they serve

Scholar

Definition:

As *Scholars*, endocrinologists demonstrate a lifelong commitment to excellence in practice through continuous learning, and by teaching others, evaluating evidence, and contributing to scholarship.

Key and Enabling Competencies: Endocrinologists are able to...

1. Engage in the continuous enhancement of their professional activities through ongoing learning

- 1.1. Develop, implement, monitor, and revise a personal learning plan to enhance professional practice
- 1.2. Identify opportunities for learning and improvement by regularly reflecting on and assessing their performance using various internal and external data sources
- 1.3. Engage in collaborative learning to continuously improve personal practice and contribute to collective improvements in practice

2. Teach students, residents, the public, and other health care professionals

- 2.1. Recognize the influence of role modelling and the impact of the formal, informal, and hidden curricula on learners
- 2.2. Promote a safe, respectful, and inclusive learning environment
- 2.3. Ensure patient safety is maintained when learners are involved
- 2.4. Plan and deliver learning activities
- 2.5. Provide feedback to enhance learning and performance
- 2.6. Assess and evaluate learners, teachers, and programs in an educationally appropriate manner

3. Integrate best available evidence into practice

- 3.1. Recognize practice uncertainty and knowledge gaps in clinical and other professional encounters and generate focused questions that can address them
- 3.2. Identify, select, and navigate pre-appraised resources

- 3.3. Critically evaluate the integrity, reliability, and applicability of health-related research and literature
- 3.4. Integrate evidence into decision-making in their practice

4. Contribute to the creation and dissemination of knowledge and practices applicable to health

- 4.1. Demonstrate an understanding of the scientific principles of research and scholarly inquiry and the role of research evidence in health care
- 4.2. Identify ethical principles for research and incorporate them into obtaining informed consent, considering potential harms and benefits, and considering vulnerable populations
- 4.3. Contribute to the work of a research program
- 4.4. Pose questions amenable to scholarly investigation and select appropriate methods to address them
- 4.5. Summarize and communicate to professional and lay audiences, including patients and their families, the findings of relevant research and scholarly inquiry

Professional

Definition:

As *Professionals*, endocrinologists are committed to the health and well-being of individual patients and society through ethical practice, high personal standards of behaviour, accountability to the profession and society, physician-led regulation, and maintenance of personal health.

Key and Enabling Competencies: Endocrinologists are able to...

1. Demonstrate a commitment to patients by applying best practices and adhering to high ethical standards

- 1.1. Exhibit appropriate professional behaviours and relationships in all aspects of practice, demonstrating honesty, integrity, humility, commitment, compassion, respect, altruism, respect for diversity, and maintenance of confidentiality
- 1.2. Demonstrate a commitment to excellence in all aspects of practice
- 1.3. Recognize and respond to ethical issues encountered in practice
- 1.4. Recognize and manage conflicts of interest
 - 1.4.1. Know and abide by accepted guidelines of ethical interactions with industry, including the pharmaceutical and medical devices industry, with respect to research, education, and clinical care
- 1.5. Exhibit professional behaviours in the use of technology-enabled communication

2. Demonstrate a commitment to society by recognizing and responding to societal expectations in health care

- 2.1. Demonstrate accountability to patients, society, and the profession by responding to societal expectations of physicians
- 2.2. Demonstrate a commitment to patient safety and quality improvement

3. Demonstrate a commitment to the profession by adhering to standards and participating in physician-led regulation

- 3.1. Fulfil and adhere to professional and ethical codes, standards of practice, and laws governing practice
- 3.2. Recognize and respond to unprofessional and unethical behaviours in physicians and other colleagues in the health care professions
- 3.3. Participate in peer assessment and standard setting

4. Demonstrate a commitment to physician health and well-being to foster optimal patient care

- 4.1. Exhibit self-awareness and manage influences on personal well-being and professional performance
- 4.2. Manage personal and professional demands for a sustainable practice throughout the physician life cycle
- 4.3. Promote a culture that recognizes, supports, and responds effectively to colleagues in need

This document is to be reviewed by the Specialty Committee in Endocrinology and Metabolism by December 2027.

APPROVED – Specialty Standards Review Committee – February 2024